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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,480	06/27/2001	Zhimin He	STL9799	5930

7590

12/19/2002

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EXAMINER

CASTRO, ANGEL A

ART UNIT

PAPER NUMBER

2653

DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/894,480

Applicant(s)

HE ET AL.

Examiner

Angel A. Castro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-8, 10-20 is/are rejected.
- 7) ☒ Claim(s) 2 and 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 15-20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Chin et al (U.S. Pat. 6,424,503).

Regarding claims 15-20, Chin shows the claimed invention in figures 4-6.

3. Claims 1, 4-6, 8, 11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Rao (U.S. Pat. 6,404,727).

Regarding claims 1 and 8, Rao discloses a disc drive (figures 7a-7e) comprising:

a housing having a first component (figure 7a, 300 and the base of the disc drive (not shown));

an actuator 41, 42 having a wall defining a cavity; and

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a pivot in the cavity, the pivot comprising:

a first member 31, 51 coupled to the wall, the first member having at least one external surface;

a second member 30, 50 mounted to the first housing component; and

at least two leaves 10, 11, 23, 24, each leaf joining one of the external surfaces to the second member, wherein the leaves are transversely disposed at an angle to one another such that the actuator is pivotable with respect to the housing about an axis.

Regarding claims 4 and 11, Rao discloses a pair of washers secured to each one of the leaves, the washers of each pair being spaced apart by substantially a same distance (column 6, lines 17-24).

Regarding claims 5 and 12, it is inherent in the reference that the pivot has a center of rotation that is generally coincident with a center of mass of the actuator (otherwise it will be an imbalance that would twist or bend the leaves).

Regarding claims 6 and 13, Rao shows that each of the external surfaces is inclined towards the center of rotation (figure 7a).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 3, 7, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao.

Regarding claims 3 and 10, Rao discloses the disc drive described above. Rao does not specifically disclose that the cavity comprises a first recess shaped to locate the first member.

Official Notice is taken of the fact that it is notoriously old and well known in the art to have recesses to locate components. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the disc drive of Rao with a recess to locate the first member. The rationale is as follows:

One of ordinary skill in the art would have been motivated to provide the disc drive of Rao with a recess to locate the first member, as it would avoid the step of positioning the member member, thus minimizing the manufacturing time.

Regarding claims 7 and 14, Rao does not show the second member being coupled to a second component. Official Notice is taken of the fact that it is notoriously old and well known in the art to couple elements of the disc drive to several components. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the disc drive of Rao with the second member being coupled to a second component (in this case to the cover of the disc drive). The rationale is as follows:

One of ordinary skill in the art would have been motivated to provide the disc drive of Rao with the second member being coupled to a second component (in this case to the cover of the disc drive) as it would allow one more point of attachment for the cover, thus increasing the rigidity of the disc drive.

Allowable Subject Matter

6. Claims 2 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Koong et al (U.S. Pat. 6,442,000) discloses a low cost flexible support actuator; Larson (U.S. Pat. 5,757,588) discloses a hard disk assembly having a pivot bearing assembly; Nigam (U.S. Pat. 5,675,452) discloses a thin data storage device; Payne (U.S. Pat. 5,620,169) discloses a rotary mount integral flexural pivot with blades; Takekado (U.S. Pat. 5,202,804) discloses a magnetic disk drive; Mori (U.S. Pat. 5,050,964) discloses an objective lens supporting mechanism; Bahiman (U.S. Pat. 4,405,184) discloses an unidirectional flexural pivot; Leonarduzzi (U.S. Pat. 3,909,077) discloses a pivot assembly mounting apparatus; Brooks (U.S. Pat. 4,812,072) discloses a torsion structural pivot; Ormond (U.S. Pat. 3,360,255) discloses an universal flexure unit.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel A. Castro whose telephone number is 703-308-8435. The examiner can normally be reached on Monday through Thursday, 8 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R Korzuch can be reached on 703-305-6137. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-308-8435 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Angel Castro, Ph.D.
December 15, 2002

A handwritten signature in black ink, appearing to read "Angel Castro", is written over a faint, illegible printed name.